

AD-A064 464

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER RANDOLPH AFB TX F/G 5/9  
MEDICAL LABORATORY SPECIALIST CAREER LADDER AFSCS 90430, 90450,--ETC(U)  
DEC 78

UNCLASSIFIED

1 OF 1  
AD  
A0 64464

NL

END  
DATE  
FILMED  
4 -- 79  
DDC

DDC FILE COPY  
ADA064464

DDC FILE COPY

LEVEL

9 OCCUPATIONAL SURVEY REPORT 2 NW



DDC  
RECEIVED  
FEB 13 1979  
C

6 MEDICAL LABORATORY SPECIALIST CAREER LADDER

AFSCs 90430, 90450, 90470, and 90492.

AFPT 90-904-091

11 DECEMBER 1978

12 62p.  
OCCUPATIONAL SURVEY BRANCH  
USAF OCCUPATIONAL MEASUREMENT CENTER  
RANDOLPH AFB TEXAS 78148

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

79 02 08 039/B  
408 889

## PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Medical Laboratory Specialist career ladder (AFSCs 90430, 90450, 90470, 90492). The project was directed by USAF Program Technical Training, Volume 2, dated July 1976. Authority for conducting occupational surveys is contained in AFR 35-2. Computer outputs from which this report was produced are available for use by operating and training officials.

The survey instrument was developed by Second Lieutenant Ann L. P. Pont, Inventory Development Specialist. Mr. Reginald G. Nolte analyzed the survey data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Jimmy L. Mitchell, Chief, Airman Career Ladders Analysis Section, Occupational Survey Branch, USAF Occupational Measurement Center, Randolph AFB, Texas 78148.

Computer programs for analyzing the occupational data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL) and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Copies of this report are available to air staff sections, major commands, and other interested training and management personnel upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Randolph AFB, Texas 78148.

This report has been reviewed and is approved.

BILLY C. McMASTER, Col, USAF  
Commander  
USAF Occupational Measurement  
Center

WALTER E. DRISKILL, Ph.D.  
Chief, Occupational Survey Branch  
USAF Occupational Measurement  
Center

SECTION 1	
1.1	1.2
1.3	1.4
1.5	1.6
1.7	1.8
1.9	1.10
1.11	1.12
1.13	1.14
1.15	1.16
1.17	1.18
1.19	1.20
1.21	1.22
1.23	1.24
1.25	1.26
1.27	1.28
1.29	1.30
1.31	1.32
1.33	1.34
1.35	1.36
1.37	1.38
1.39	1.40
1.41	1.42
1.43	1.44
1.45	1.46
1.47	1.48
1.49	1.50
1.51	1.52
1.53	1.54
1.55	1.56
1.57	1.58
1.59	1.60
1.61	1.62
1.63	1.64
1.65	1.66
1.67	1.68
1.69	1.70
1.71	1.72
1.73	1.74
1.75	1.76
1.77	1.78
1.79	1.80
1.81	1.82
1.83	1.84
1.85	1.86
1.87	1.88
1.89	1.90
1.91	1.92
1.93	1.94
1.95	1.96
1.97	1.98
1.99	1.100
1.101	1.102
1.103	1.104
1.105	1.106
1.107	1.108
1.109	1.110
1.111	1.112
1.113	1.114
1.115	1.116
1.117	1.118
1.119	1.120
1.121	1.122
1.123	1.124
1.125	1.126
1.127	1.128
1.129	1.130
1.131	1.132
1.133	1.134
1.135	1.136
1.137	1.138
1.139	1.140
1.141	1.142
1.143	1.144
1.145	1.146
1.147	1.148
1.149	1.150
1.151	1.152
1.153	1.154
1.155	1.156
1.157	1.158
1.159	1.160
1.161	1.162
1.163	1.164
1.165	1.166
1.167	1.168
1.169	1.170
1.171	1.172
1.173	1.174
1.175	1.176
1.177	1.178
1.179	1.180
1.181	1.182
1.183	1.184
1.185	1.186
1.187	1.188
1.189	1.190
1.191	1.192
1.193	1.194
1.195	1.196
1.197	1.198
1.199	1.200
1.201	1.202
1.203	1.204
1.205	1.206
1.207	1.208
1.209	1.210
1.211	1.212
1.213	1.214
1.215	1.216
1.217	1.218
1.219	1.220
1.221	1.222
1.223	1.224
1.225	1.226
1.227	1.228
1.229	1.230
1.231	1.232
1.233	1.234
1.235	1.236
1.237	1.238
1.239	1.240
1.241	1.242
1.243	1.244
1.245	1.246
1.247	1.248
1.249	1.250
1.251	1.252
1.253	1.254
1.255	1.256
1.257	1.258
1.259	1.260
1.261	1.262
1.263	1.264
1.265	1.266
1.267	1.268
1.269	1.270
1.271	1.272
1.273	1.274
1.275	1.276
1.277	1.278
1.279	1.280
1.281	1.282
1.283	1.284
1.285	1.286
1.287	1.288
1.289	1.290
1.291	1.292
1.293	1.294
1.295	1.296
1.297	1.298
1.299	1.300
1.301	1.302
1.303	1.304
1.305	1.306
1.307	1.308
1.309	1.310
1.311	1.312
1.313	1.314
1.315	1.316
1.317	1.318
1.319	1.320
1.321	1.322
1.323	1.324
1.325	1.326
1.327	1.328
1.329	1.330
1.331	1.332
1.333	1.334
1.335	1.336
1.337	1.338
1.339	1.340
1.341	1.342
1.343	1.344
1.345	1.346
1.347	1.348
1.349	1.350
1.351	1.352
1.353	1.354
1.355	1.356
1.357	1.358
1.359	1.360
1.361	1.362
1.363	1.364
1.365	1.366
1.367	1.368
1.369	1.370
1.371	1.372
1.373	1.374
1.375	1.376
1.377	1.378
1.379	1.380
1.381	1.382
1.383	1.384
1.385	1.386
1.387	1.388
1.389	1.390
1.391	1.392
1.393	1.394
1.395	1.396
1.397	1.398
1.399	1.400
1.401	1.402
1.403	1.404
1.405	1.406
1.407	1.408
1.409	1.410
1.411	1.412
1.413	1.414
1.415	1.416
1.417	1.418
1.419	1.420
1.421	1.422
1.423	1.424
1.425	1.426
1.427	1.428
1.429	1.430
1.431	1.432
1.433	1.434
1.435	1.436
1.437	1.438
1.439	1.440
1.441	1.442
1.443	1.444
1.445	1.446
1.447	1.448
1.449	1.450
1.451	1.452
1.453	1.454
1.455	1.456
1.457	1.458
1.459	1.460
1.461	1.462
1.463	1.464
1.465	1.466
1.467	1.468
1.469	1.470
1.471	1.472
1.473	1.474
1.475	1.476
1.477	1.478
1.479	1.480
1.481	1.482
1.483	1.484
1.485	1.486
1.487	1.488
1.489	1.490
1.491	1.492
1.493	1.494
1.495	1.496
1.497	1.498
1.499	1.500
1.501	1.502
1.503	1.504
1.505	1.506
1.507	1.508
1.509	1.510
1.511	1.512
1.513	1.514
1.515	1.516
1.517	1.518
1.519	1.520
1.521	1.522
1.523	1.524
1.525	1.526
1.527	1.528
1.529	1.530
1.531	1.532
1.533	1.534
1.535	1.536
1.537	1.538
1.539	1.540
1.541	1.542
1.543	1.544
1.545	1.546
1.547	1.548
1.549	1.550
1.551	1.552
1.553	1.554
1.555	1.556
1.557	1.558
1.559	1.560
1.561	1.562
1.563	1.564
1.565	1.566
1.567	1.568
1.569	1.570
1.571	1.572
1.573	1.574
1.575	1.576
1.577	1.578
1.579	1.580
1.581	1.582
1.583	1.584
1.585	1.586
1.587	1.588
1.589	1.590
1.591	1.592
1.593	1.594
1.595	1.596
1.597	1.598
1.599	1.600
1.601	1.602
1.603	1.604
1.605	1.606
1.607	1.608
1.609	1.610
1.611	1.612
1.613	1.614
1.615	1.616
1.617	1.618
1.619	1.620
1.621	1.622
1.623	1.624
1.625	1.626
1.627	1.628
1.629	1.630
1.631	1.632
1.633	1.634
1.635	1.636
1.637	1.638
1.639	1.640
1.641	1.642
1.643	1.644
1.645	1.646
1.647	1.648
1.649	1.650
1.651	1.652
1.653	1.654
1.655	1.656
1.657	1.658
1.659	1.660
1.661	1.662
1.663	1.664
1.665	1.666
1.667	1.668
1.669	1.670
1.671	1.672
1.673	1.674
1.675	1.676
1.677	1.678
1.679	1.680
1.681	1.682
1.683	1.684
1.685	1.686
1.687	1.688
1.689	1.690
1.691	1.692
1.693	1.694
1.695	1.696
1.697	1.698
1.699	1.700
1.701	1.702
1.703	1.704
1.705	1.706
1.707	1.708
1.709	1.710
1.711	1.712
1.713	1.714
1.715	1.716
1.717	1.718
1.719	1.720
1.721	1.722
1.723	1.724
1.725	1.726
1.727	1.728
1.729	1.730
1.731	1.732
1.733	1.734
1.735	1.736
1.737	1.738
1.739	1.740
1.741	1.742
1.743	1.744
1.745	1.746
1.747	1.748
1.749	1.750
1.751	1.752
1.753	1.754
1.755	1.756
1.757	1.758
1.759	1.760
1.761	1.762
1.763	1.764
1.765	1.766
1.767	1.768
1.769	1.770
1.771	1.772
1.773	1.774
1.775	1.776
1.777	1.778
1.779	1.780
1.781	1.782
1.783	1.784
1.785	1.786
1.787	1.788
1.789	1.790
1.791	1.792
1.793	1.794
1.795	1.796
1.797	1.798
1.799	1.800
1.801	1.802
1.803	1.804
1.805	1.806
1.807	1.808
1.809	1.810
1.811	1.812
1.813	1.814
1.815	1.816
1.817	1.818
1.819	1.820
1.821	1.822
1.823	1.824
1.825	1.826
1.827	1.828
1.829	1.830
1.831	1.832
1.833	1.834
1.835	1.836
1.837	1.838
1.839	1.840
1.841	1.842
1.843	1.844
1.845	1.846
1.847	1.848
1.849	1.850
1.851	1.852
1.853	1.854
1.855	1.856
1.857	1.858
1.859	1.860
1.861	1.862
1.863	1.864
1.865	1.866
1.867	1.868
1.869	1.870
1.871	1.872
1.873	1.874
1.875	1.876
1.877	1.878
1.879	1.880
1.881	1.882
1.883	1.884
1.885	1.886
1.887	1.888
1.889	1.890
1.891	1.892
1.893	1.894
1.895	1.896
1.897	1.898
1.899	1.900
1.901	1.902
1.903	1.904
1.905	1.906
1.907	1.908
1.909	1.910
1.911	1.912
1.913	1.914
1.915	1.916
1.917	1.918
1.919	1.920
1.921	1.922
1.923	1.924
1.925	1.926
1.927	1.928
1.929	1.930
1.931	1.932
1.933	1.934
1.935	1.936
1.937	1.938
1.939	1.940
1.941	1.942
1.943	1.944
1.945	1.946
1.947	1.948
1.949	1.950
1.951	1.952
1.953	1.954
1.955	1.956
1.957	1.958
1.959	1.960
1.961	1.962
1.963	1.964
1.965	1.966
1.967	1.968
1.969	1.970
1.971	1.972
1.973	1.974
1.975	1.976
1.977	1.978
1.979	1.980
1.981	1.982
1.983	1.984
1.985	

## SUMMARY OF RESULTS

1. Survey Coverage: The Medical Laboratory Specialist career ladder job inventory was administered during the period January through April 1978. Survey results are based on responses from 1,296 of the 1,697 personnel assigned in the 904X0 career ladder. This represents 76 percent of all assigned career ladder members.
2. Career Ladder Structure: Seven major job clusters and three independent job types were identified within the career ladder: five groups of specialist personnel performing technical medical laboratory tasks, one large group of supervisors, and two smaller specialized supervisor groups, one instructor group, and one group of generalized medical laboratory personnel performing many fragmented functions such as serology, urinalysis, medical materiel, and facilities maintenance tasks. In general, the ladder was found to be fairly homogeneous.
3. Career Ladder Progression: Generally, jobs performed by 3- and 5-skill level personnel were technical in nature, with heavy emphasis on hematological procedures, blood banking, chemical procedures, and general medical laboratory procedures. Seven-skill level respondents spent 63 percent of their time performing management related functions, with the remaining 37 percent being spent on technical tasks. Nine-skill level incumbents were primarily involved in managerial tasks and performed few technical medical tasks.
4. AFMS Differences: First enlistment respondents spent more time performing hematological procedures and chemical procedures using macrotechniques and microtechniques than did members in any subsequent enlistment group. Senior members showed an increasing emphasis on supervisory and management functions.
5. AFR 39-1 Review: The AFR 39-1 Specialty Descriptions contain statements of responsibility which are sufficiently broad in scope to include all required tasks performed by 904X0 personnel.
6. STS Review: STS 904X0 provided a generally accurate and complete description of the tasks performed by career ladder respondents. However, the match between the STS and the survey data indicates that some refinements to the STS could possibly be made.
7. Comparison to Previous Survey: Both this survey and the earlier 1973 survey reflect very similar career ladder structures and tasks performed. A contrast of the data from the two time periods indicated a very stable career ladder.
8. Implications: No major problems were identified during this analysis. The career ladder has remained relatively stable over the years, and no major changes are foreseen in the near future. A special comparison of this career ladder with the 903X0 and 909X0 career ladders is currently being analyzed and data from this study will be available in January 1979.



OCCUPATIONAL SURVEY REPORT  
MEDICAL LABORATORY CAREER LADDER  
(AFSCs 90430, 90450, 90470 AND 90492)

INTRODUCTION

↙ This is a report of an occupational survey of the Medical Laboratory Specialist career ladder (AFSCs 90430, 90450, 90470, and 90492) completed by the Occupational Survey Branch, USAF Occupational Measurement Center, in November 1978. The previous occupational survey of this career ladder was published during October 1973. ↘

Since the 1973 survey, the career ladder has remained relatively stable. A minor change occurred in January 1973 when the DAFSC 90491 was renumbered to DAFSC 90492 as a direct conversion, with no change in title.

The current project is a scheduled survey of the 904X0 Medical Laboratory Specialist career ladder as reflected in the PTT. Topics discussed in this report include: (1) survey methodology, (2) the job structure found within the career ladder and how it relates to skill level and experience groups, (3) comparison of the job structure with career ladder documents such as AFR 39-1 Specialty Job Descriptions and the Specialty Training Standard (STS), and (4) comparison of the current survey with the previous study.

SURVEY METHODOLOGY

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-904-091. The survey instrument from the 1973 study served as the basis for the new task inventory. The previous task list was expanded and refined through a thorough research of career field publications and directives and personal interviews with 27 subject-matter specialists at four bases (Sheppard, Lackland, Mather, and Travis AFBs). The final result was a task list consisting of 493 tasks grouped under 17 duty headings and a background section which included information about each respondent such as grade, TAFMS, duty title, and job interest.

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

## SURVEY ADMINISTRATION

During the period January through April 1978, consolidated base personnel offices in operational units worldwide administered the inventory booklets to personnel holding Medical Laboratory Specialist DAFSCs. These personnel were selected from a computer generated mailing list obtained from personnel data tapes maintained by the Air Force Human Resources Laboratory (AFHRL). Each individual who completed the inventory first completed an identification and biographical information section, then checked each task performed in their current job.

After checking all tasks performed, each respondent then rated each of these tasks on a nine-point scale showing relative time spent on that task as compared to all other tasks checked. The ratings ranged from one (very-small amount time spent) through five (about-average time spent) to nine (very-large amount time spent). To determine relative time spent for each task checked by a respondent, all a respondent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task responses and the quotient multiplied by 100. This procedure provides a basis for comparing tasks not only in terms of percent members performing but also in terms of average percent time spent.

## SURVEY SAMPLE

Personnel were selected to participate in this survey so as to insure proper representation across MAJCOM and DAFSC groups. Table 1 reflects the percentage distribution, by major command, of assigned personnel in the career ladder as of October 1978. Also listed in this table is the percent distribution, by major command, of respondents in the final survey sample. Table 2 indicates the DAFSC distribution of the survey sample. The 1,252 respondents making up this final sample represent 74 percent of the 1,697 personnel assigned to this career ladder Air Force-wide. Generally, it appears that the survey sample provides good representation from all skill level DAFSCs. In Table 3, the total active federal military service (TAFMS) survey distribution is presented. Notice that 51 percent of the survey sample are in their first enlistment.

TABLE 1  
COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
AAC	2	2
ADC	2	2
AFLC	5	5
AFSC	21	17
ATC	12	13
AU	2	2
MAC	12	13
PACAF	4	4
SAC	18	18
TAC	12	13
USAF A	1	1
USAFE	8	8
OTHER	<u>1</u>	<u>2</u>
TOTAL	100	100

TABLE 2  
DAFSC DISTRIBUTION OF SURVEY SAMPLE

<u>DAFSC</u>	<u>NUMBER ASSIGNED</u>	<u>NUMBER SAMPLED</u>	<u>PERCENT SAMPLED</u>
90430	206	108	52%
90450	1,201	869	72%
90470	<u>290</u>	<u>275</u>	<u>95%</u>
TOTAL	1,697	1,252	74%
90492	*	26	*

\* Nine-skill level personnel work in three career ladders (904X0, 904X1, and 904X2); and therefore, specific authorizations are not available for each ladder. Of 32 authorized 90492 personnel, twenty-six were sampled who indicated they supervise 904X0 personnel.

TABLE 3

## TAFMS DISTRIBUTION OF SURVEY SAMPLE

<u>MONTHS TIME IN SERVICE</u>	<u>1-48</u>	<u>49-96</u>	<u>97-144</u>	<u>145-192</u>	<u>193-240</u>	<u>240+</u>
NUMBER IN FINAL SAMPLE	655	221	143	86	120	47
PERCENT OF SAMPLE	51%	17%	11%	7%	9%	4%



## CAREER LADDER STRUCTURE

A key aspect of the USAF occupational analysis program is to examine the actual structure of career ladders--what people are doing in the field, rather than how official career field documents say they are organized. This analysis is made possible by the Comprehensive Occupational Data Analysis Programs (CODAP). CODAP consists of 40 programs which generate a number of statistical products used in the analysis of career ladders. The primary product used to analyze career ladders is a hierarchical clustering of all jobs based on the similarity of tasks performed and relative time spent. This process permits identification of the major types of work being performed in the occupation (career ladder) and is analyzed in terms of the job description and background data of each type of job. This information is then used to examine the accuracy and completeness of present career ladder documents (AFR 39-1 specialty descriptions, specialty training standards, etc.) and to formulate an understanding of current utilization patterns.

The basic identifying group used in the hierarchical job structure is the Job Type. A job type is a group of individuals who perform many of the same tasks and spend similar amounts of time performing these tasks. A Cluster is a group of job types which have a substantial degree of similarity. Finally, there are often specialized jobs that are too dissimilar to be grouped into any cluster. These unique groups are labeled Independent Job Types.

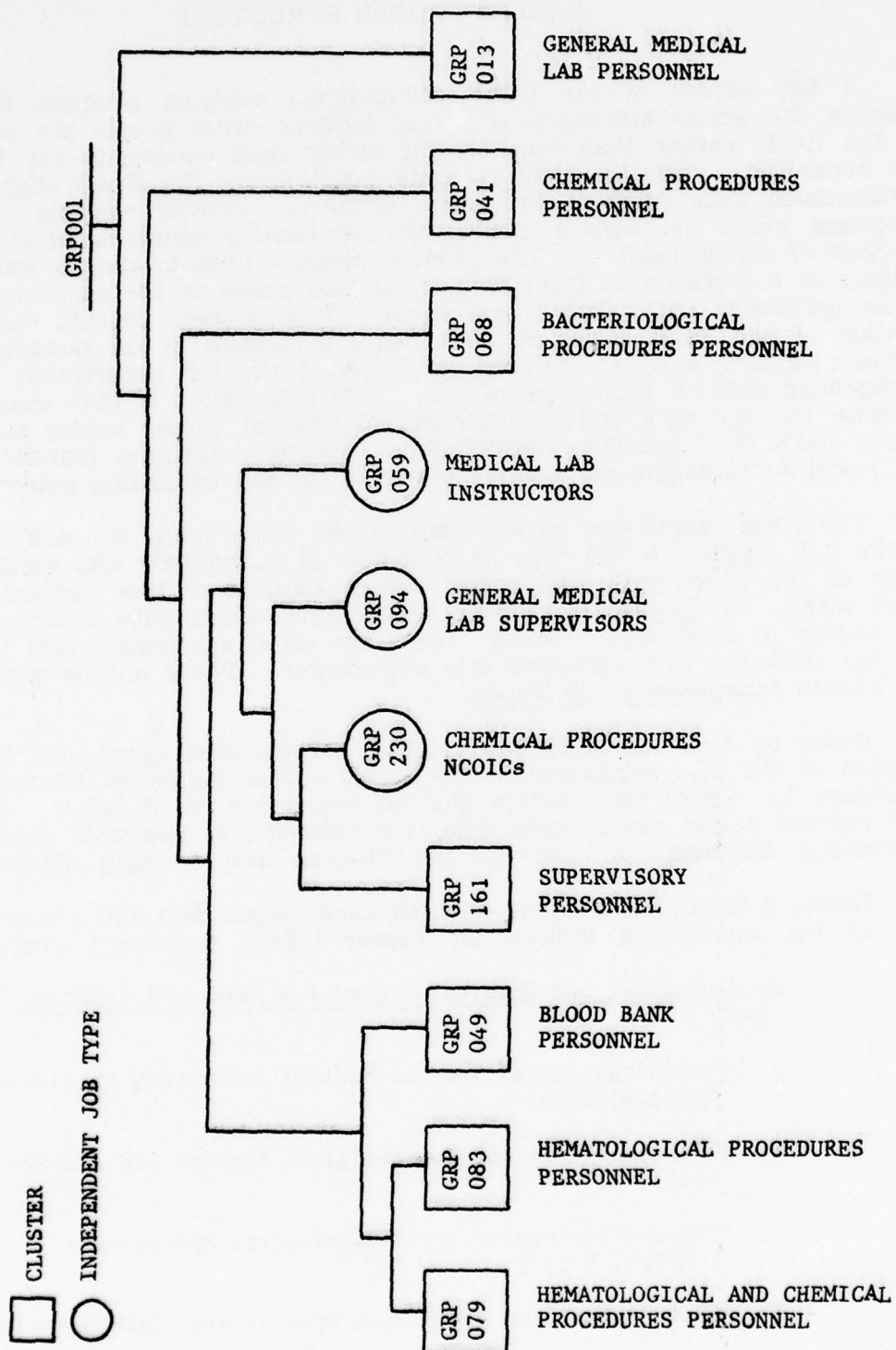
Based on task similarity and relative percent time spent, the best division of the jobs performed in the 904X0 career ladder is illustrated in Figure 1. These job clusters and job types are listed below. The GRP number shown beside each title is a reference to computer printed information included for use by classification and training officials.

Tables 4 through 7 present selected background data and a comparison of job satisfaction indices for career ladder functional groups.

- I. Hematological and Chemical Procedures Personnel (GRP079, N=505)
  - a. Hematological and General Medical Laboratory Specialists (GRP122, N=45)
  - b. Bacteriological and Hematological Specialists (GRP228, N=87)
  - c. Chemical Procedures and Hematological Specialists (GRP220, N=217)
  - d. Hematological and Blood Bank Specialists (GRP146, N=126)

FIGURE 1

MEDICAL LABORATORY CAREER LADDER, AFSC 904X0



- e. Chemical Procedures and Blood Bank Specialists (GRP200, N=7)
- f. Chemical and Bacteriological Procedures Trainees (GRP113, N=15)
- II. Hematological Procedures Personnel (GRP083, N=100)
- III. Blood Bank Personnel (GRP049, N=80)
- IV. Supervisory Personnel (GRP161, N=192)
  - a. Medical Laboratory NCOICs (GRP202, N=81)
  - b. Medical Laboratory Supervisors (GRP172, N=111)
- V. Chemical Procedures NCOICs (GRP230, N=18)
- VI. General Medical Laboratory Supervisors (GRP094, N=22)
- VII. Medical Laboratory Instructors (GRP059, N=17)
- VIII. Bacteriological Procedures Personnel (GRP068, N=99)
- IX. Chemical Procedures Personnel (GRP041, N=104)
- X. General Medical Laboratory Personnel (GRP013, N=118)
  - a. General Medical Laboratory NCOICs (GRP283, N=5)
  - b. Urinalysis and General Laboratory Procedures Specialists (GRP135, N=6)
  - c. Serology and General Medical Laboratory Technicians (GRP204, N=5)
  - d. Medical Materiel Specialists (GRP-14, N=48)
  - e. Facilities Maintenance and General Medical Laboratory Personnel (GRP159, N=5)
  - f. Facilities Maintenance and General Medical Laboratory NCOICs (GRP171, N=5)

Ninety-seven percent of the respondents in the sample were found to perform jobs roughly equivalent to those described in the ten clusters listed above. The remaining three percent were not associated with any of these major groups because the respondents jobs were so heterogeneous that they did not group with clusters or as independent job types.



### Group Descriptions

I. Hematological and Chemical Procedures Personnel (GRP079, N=505). This is the largest cluster identified and consists of 39 percent of the total sample. Ninety-one percent of the members of this group are DAFSC 90430 or 90450 personnel. Sixty-six percent of the members are first term airmen. These personnel spend the majority of their time (49 percent) performing hematological procedures, chemical procedures, and blood banking and immunohematology procedures. Average grade was 3.8 for the cluster and 80 percent of the cluster consists of 5-skill level airmen who average 42 months in the career field. Six job types appear within the cluster, reflecting specialization within the cluster. These were Hematological and General Medical Laboratory Specialists, Chemical Procedures and Hematological Specialists, Hematological Procedures and Blood Bank Specialists, Chemical Procedures and Blood Bank Specialists, and Chemical and Bacteriological Procedures Trainees. Members of this cluster were generally satisfied with their job and felt their talents and training are being used fairly well or better (See Table 5).

II. Hematological Procedures Personnel (GRP083, N=100). Eight percent of the total sample are represented by members of this specialized cluster. The members of this group are predominately 3- and 5-skill level airmen (87 percent) performing hematological procedures the vast majority of their time (52 percent). Typical tasks performed include: perform white blood cell counts, automated; perform red blood cell counts, automated; and perform hematocrit determinations, automated. Members of the cluster have an average grade of 3.9, average 40 months in the career field and generally are in their first enlistment (62 percent). One distinct job type appears within the cluster, representing 17 percent of the total cluster population, these are Hematological NCOICs with an average grade of 4.2 and an average of 61 months in the career field. The perception of job interest and the use of talent are good for this cluster; their perceived utilization of training is exceptionally high (See Table 5).

III. Blood Bank Personnel (GRP049, N=80). This cluster, as the previous, is specialized with all members spending an average of 55 percent of their time performing blood banking and immunohematological procedures. Seventy-nine percent of the members are 3-skill and 5-skill level airmen with a grade average of 3.9. Average time in the career field is 46 months. Typical tasks performed are: perform ABO groupings and RH typings, including Du; perform "T" cell isolation and typing tests; and prepare or store blood components for transfusions. Two distinct job types were identified within the cluster: Blood Bank NCOICs, and Hematological Instructors. Members of this cluster were generally satisfied with their job and felt their talents and training are being used fairly well or better (See Table 5).



IV. Supervisory Personnel (GRP161, N=192). This is the second largest cluster in the survey sample and consists of predominately 7-skill and 9-skill level incumbents (79 percent). The cluster represents 15 percent of the survey sample. Members supervise an average of four airmen, have an average grade of 6.0, and an average of 14.8 years of military service. They spend 63 percent of their time on supervisory related tasks. Within the cluster, there are two job types: Medical Laboratory NCOICs who perform supervisory and technical tasks and Medical Laboratory Supervisors who primarily perform supervisory tasks. Generally members of this cluster are well satisfied with their job and feel their talents and training are being used fairly well or better.

V. Chemical Procedures NCOICs (GRP230, N=18). This small independent job group of 18 NCOICs represents one percent of the survey sample. They are all 5- or 7-skill level members who are involved in performing (33 percent time spent) and supervising (48 percent time spent) chemical procedures activities and functions. Typical technical tasks are: perform automated blood urea nitrogen tests (BUN); and perform automated creatinine tests. The average grade is 5.2, average time in the career field is 100 months and they supervise an average of four persons. The average number of tasks performed is quite high (136). The members of this independent job group are well satisfied with their job and have a very high perception of the use of their talents and training (See Table 5).

VI. General Medical Laboratory Supervisors (GRP094, N=22). This independent job group is also, similar to the previous independent job group quite small. Its 22 members represent two percent of the survey sample and are also all 5- and 7-skill level airmen who spend over 50 percent of their time supervising activities within medical laboratories. They have an average grade of 5.6, average of 13.2 years in the service and supervise an average of two personnel. They are well satisfied with their jobs and feel their talents are being used fairly well or better. They have a somewhat lower perception of their training (See Table 7).

VII. Medical Laboratory Instructors (GRP059, N=17). This third and last independent job group is the smallest of the three. Its 17 members are all 5- and 7-skill level airmen as the previous two groups and have an average grade of 5.1. They have an average of 8.9 years in the service which is lower than the previous two groups and supervise an average of three personnel. Typical tasks are: administer oral or written tests, conduct formal technical course training in Air Force Specialty AFSC 904X0, and determine individual training needs such as remedial or qualification re-cycles. They spent 72 percent of their time on training and supervision tasks. Members of this group are satisfied with their job and use of their talents. They have a high perception of the use of their training (See Table 7).

VIII. Bacteriological Procedure Personnel (GRP068, N=99). This cluster is a specialized group of 99 airmen who are predominately 3-skill and 5-skill level personnel who spent 42 percent of their time performing bacteriological procedures. They have an average grade of 3.8, average 43 months in the career field and 60 percent are in their first enlistment. Typical tasks performed are: perform primary cultures on biological specimens; perform staining procedures, such as Gram's stain, or methylene blue; and prepare and store culture media. There is one large distinct group which appears within the cluster. This is Bacteriological Procedures NCOICs which represents nearly a third of the parent cluster. These NCOICs have a somewhat higher average grade (4.3), average a few more months in the career field, and are all 5-skill and 7-skill level personnel. They perform an average of 24 more tasks than do the Bacteriological Specialists. Overall members of this cluster are well satisfied with their job and feel their talents and training are being used fairly well or better.

IX. Chemical Procedures Personnel (GRP041, N=104). The personnel in this cluster perform predominately chemical procedures using macrotechniques and microtechniques (46 percent). In addition, they spend 20 percent of their time performing chemical procedures using enzyme techniques, flame photometry, or atomic absorption. The majority of the members are 3-skill and 5-skill level airmen with an average grade of 3.8, average 44 months in the career field, and 62 percent of them are in their first enlistment. Typical tasks performed are: perform automated blood urea nitrogen tests (BUN); perform automated creatinine tests; and perform automated glucose and reducing substance tests on blood, urine, or CSF, using macrotechniques. One small distinct job type exists within the cluster (5 members) who are Chemical Procedures NCOIC's. They average 59 months in the career field, have an average grade of 4.2, supervise an average of four persons and perform a slightly more average number of tasks than do the specialists. Generally members of this cluster are well satisfied with their jobs and feel their talents and training are being used fairly well or better.

X. General Medical Laboratory Personnel (GRP013, N=118). This cluster consists of nine percent of the survey respondents. Seventy-four percent of the incumbents are 3-skill and 5-skill level members. The average grade is 4.3, average time in the career field is 61 months, and 50 percent of the incumbents are in their first enlistment. This cluster is highly fragmented into relatively small sub-groups performing semi-specialized functions such as urinalysis, serology, medical materiel and facilities maintenance as illustrated by the six sub-groups included under the main cluster. In fact there are many other such sub-groups within the cluster, all small, and all formed around some specialized laboratory activity, however, the main responsibility that ties the cluster together is Duty G - Performing General Medical Laboratory Tasks (24 percent time spent). Personnel in this cluster perform very few average number of tasks (24) and generally express a rather low job interest, and low perception of the use of their talents and training (See Table 7).

### Summary

The picture that emerges from this analysis of the career ladder tends to validate the existing Air Force classification structure for this specialty. A predominant number of 3- and 5-skill level airmen make up the career ladder structure, with most primarily being involved in performing hematological, blood banking, chemical, and bacteriological procedures. More experienced personnel tend to be found in supervisory or training positions, as well as the above mentioned technical areas. This basic structure was found in the last survey and presents a very stable career ladder structure.



TABLE 4

## SELECTED BACKGROUND DATA ON CAREER LADDER FUNCTIONAL GROUPS

	HEMATOLOGICAL AND CHEMICAL PROCEDURES PERSONNEL CLUSTER I	HEMATOLOGICAL PROCEDURES PERSONNEL CLUSTER II	BLOOD BANK PERSONNEL CLUSTER III	SUPERVISORY PERSONNEL CLUSTER IV	CHEMICAL PROCEDURES NCOICs CLUSTER V
NUMBER IN GROUP	505	100	80	192	18
PERCENT OF SAMPLE	39%	8%	6%	15%	1%
PERCENT IN CONUS	80%	91%	88%	78%	78%

DAFSC DISTRIBUTION					
NOT REPORTED	1%	3%	3%	-	-
90430	11%	11%	11%	1%	-
90450	80%	76%	68%	23%	44%
90470	8%	10%	18%	63%	56%
90492	-	-	-	13	-

AVERAGE GRADE	3.8	3.9	3.9	6.0	5.2
AVERAGE TIME IN CAREER FIELD	42 MONTHS	40 MONTHS	46 MONTHS	136 MONTHS	100 MONTHS
AVERAGE TIME IN SERVICE	55 MONTHS	54 MONTHS	58 MONTHS	177 MONTHS	129 MONTHS
PERCENT IN FIRST ENLISTMENT	66%	62%	63%	6%	6%
NUMBER OF PERSONS SUPERVISED	NONE	NONE	NONE	4	4
AVERAGE NUMBER OF TASKS	110	70	72	157	136
JOB DIFFICULTY INDEX	14.0	10.0	13.8	18.7	18.0



TABLE 5

COMPARISON OF JOB SATISFACTION INDICES BY CAREER LADDER FUNCTIONAL GROUPS  
(PERCENT MEMBERS RESPONDING)

	HEMATOLOGICAL PROCEDURES PERSONNEL CLUSTER I	HEMATOLOGICAL PROCEDURES PERSONNEL CLUSTER II	BLOOD BANK PERSONNEL CLUSTER III	SUPERVISORY PERSONNEL CLUSTER IV	CHEMICAL PROCEDURES NCOs CLUSTER V
EXPRESSED JOB INTEREST:					
DULL	6	8	4	4	-
SO-SO	10	11	8	7	11
INTERESTING	81	79	86	86	83
NOT REPORTED	3	2	2	3	6
PERCEIVED UTILIZATION OF TALENTS:					
LITTLE OR NOT AT ALL	15	12	20	13	-
FAIRLY WELL OR BETTER	84	87	79	86	100
NOT REPORTED	1	1	1	1	-
PERCEIVED UTILIZATION OF TRAINING:					
LITTLE OR NOT AT ALL	12	7	11	13	6
FAIRLY WELL OR BETTER	86	93	89	84	94
NOT REPORTED	2	-	-	3	-
DO YOU PLAN TO REENLIST:					
NO, OR PROBABLY NO	57	49	38	32	6
YES, OR PROBABLY YES	40	50	61	65	77
NO REPLY	3	1	1	3	17

TABLE 6

## SELECTED BACKGROUND DATA ON CAREER LADDER FUNCTIONAL GROUPS

	GENERAL MEDICAL LABORATORY SUPERVISORS CLUSTER VI	MEDICAL LABORATORY INSTRUCTORS CLUSTER VII	BACTERIOLOGICAL PROCEDURES PERSONNEL CLUSTER VIII	CHEMICAL PROCEDURES PERSONNEL CLUSTER IX	GENERAL MEDICAL LABORATORY PERSONNEL CLUSTER X
NUMBER IN GROUP	22	17	99	104	118
PERCENT OF SAMPLE	2%	1%	8%	8%	9%
PERCENT LOCATED IN CONUS	91	100	93	94	96

DAFSC DISTRIBUTION					
NOT REPORTED	-	-	2%	-	2%
90430	-	-	11%	14%	3%
90450	27%	59%	77%	78%	71%
90470	73%	41%	10%	8%	23%
90492	-	-	-	-	1

AVERAGE GRADE	5.6	5.1	3.8	3.8	4.3
AVERAGE TIME IN CAREER FIELD	115 MONTHS	90 MONTHS	43 MONTHS	44 MONTHS	61 MONTHS
AVERAGE TIME IN SERVICE	158 MONTHS	107 MONTHS	57 MONTHS	58 MONTHS	85 MONTHS
PERCENT IN FIRST ENLISTMENT	9%	18%	60%	62%	50%
NUMBER OF PERSONS SUPERVISED	2	3	NONE	NONE	NONE
AVERAGE NUMBER OF TASKS	57	56	50	56	24
JOB DIFFICULTY INDEX	12.2	13.2	10.1	9.4	7.6

TABLE 7

COMPARISON OF JOB SATISFACTION INDICES BY CAREER LADDER FUNCTIONAL GROUPS  
(PERCENT MEMBERS RESPONDING)

	GENERAL MEDICAL LABORATORY SUPERVISORS CLUSTER VI	MEDICAL LABORATORY INSTRUCTORS CLUSTER VII	BACTERIOLOGICAL PROCEDURES PERSONNEL CLUSTER VIII	CHEMICAL PROCEDURES PERSONNEL CLUSTER IX	GENERAL MEDICAL LABORATORY PERSONNEL CLUSTER X
EXPRESSED JOB INTEREST:					
DULL	9	6	3	8	20
SO-SO	9	6	8	9	18
INTERESTING	82	88	87	80	62
NOT REPORTED	-	-	2	3	-
PERCEIVED UTILIZATION OF TALENTS:					
LITTLE OR NOT AT ALL	14	18	9	15	43
FAIRLY WELL OR BETTER	86	82	90	84	56
NOT REPORTED	-	-	1	1	1
PERCEIVED UTILIZATION OF TRAINING:					
LITTLE OR NOT AT ALL	32	6	10	11	49
FAIRLY WELL OR BETTER	68	94	89	86	50
NOT REPORTED	-	-	1	3	1
DO YOU PLAN TO REENLIST:					
NO, OR PROBABLY NO	27	53	61	48	47
YES, OR PROBABLY YES	73	41	39	50	50
NO REPLY	-	6	-	2	3

## ANALYSIS OF DAFSC GROUPS

In conjunction with identifying the job structure of the career ladder, it is important to examine skill level differences of members and relate these differences back to the job structure. In addition, this information can be compared to the career ladder documents such as the AFR 39-1 Specialty Descriptions and the Specialty Training Standard (STS) in order to determine how accurately these documents reflect what career ladder personnel are actually doing in the field.

Table 8 reflects the relative percent time spent by skill level groups on each duty in the inventory. As would be expected, the management, supervision, and administration duties show increasing emphasis with higher skill levels, while the percent time spent on technical duties is greater for the 3- and 5-skill level airmen.

### Skill Level Descriptions

DAFSCs 90430 and 90450. Three and 5-skill level DAFSC personnel perform essentially the same job. They spend well over three-fourths of their time on technical tasks and relatively little time on management, supervision, or administration duties. Five-skill level personnel perform an average of 87 tasks while 3-skill level airmen perform an average of 67 tasks. Most of the 3- and 5-skill level airmen's time is spent in performing General Laboratory Tasks, Blood Banking, Hematological, and Chemical procedures using macrotechniques and microtechniques. Table 9 reflects that 5-skill level personnel appear in all ten of the job groups, while 3-skill level personnel appear in seven of the job groups but are not of any significant proportion in any job group.

Tables 10 and 11 present representative tasks performed by 3- and 5-skill level personnel. Duty G (Performing General Medical Laboratory Tasks), and Duty J (Performing Hematological Procedures) appear frequently in both skill levels.

The primary difference between the 3- and 5-skill level personnel is that 5-skill level personnel spend 13 percent or more of their time on management, supervision, and administration tasks as reflected in Table 8 and Table 12.

DAFSC 90470. Seven-skill level personnel spend over 51 percent of their time performing management, supervision, and administrative functions (see Table 8). The remaining 49 percent of their time is spent on technical tasks with emphasis upon performing General Laboratory Tasks, Blood Banking, Hematological, and Chemical Procedures using macrotechniques and microtechniques much as the 3- and 5-skill level personnel. Two duty areas where they reflect a significant increase over 3- and 5-skill level airmen are performing Medical Laboratory Administration Functions and Medical Laboratory Materiel Functions.



Seven-skill level personnel perform the largest average number of tasks (113) of any DAFSC in this career ladder. The majority of the 90470s are found in the Supervisory Personnel Cluster (IV), but others also appear in all ten clusters in varying percentages (See Table 9).

Table 13 lists representative tasks performed by 7-skill level personnel. In addition to the expected management, supervision, and administration tasks, there are a number of General Medical Laboratory tasks reflected.

Tasks which most clearly distinguish 5- and 7-skill level personnel are presented in Table 14.

DAFSC 90492. DAFSC 90492 personnel receive their experience in the 904X0, 904X1, or 904X2 career ladders. As might be expected, 90492 personnel spend only 12 percent of their time performing technical duties, and 88 percent of their time performing management, supervision, or administration functions (see Table 8). Also as expected, most of the 9-skill level's time is spent on higher level management duties as opposed to performing merely as a supervisor (see Table 15).

Nine-skill level personnel appear predominately in the Supervisory Personnel Cluster (IV) (See Table 9).

The 90492 personnel perform an average of only 106 tasks as opposed to the 113 performed by the 90470's, but these tasks are highly concentrated in the higher level management and supervisory tasks to the near exclusion of technical tasks. Tasks which most clearly distinguish between 7- and 9-skill level personnel are presented in Table 16.

#### Summary of DAFSC Groups

DAFSC 904X0 personnel were found to perform similar technical tasks from the 3- to the 7-skill level. Airmen holding higher skill levels perform more tasks, and 7-skill level personnel take on management, supervisory, and administrative related tasks. The 7-skill level personnel serve primarily as NCOIC's and supervisors in charge of medical laboratories or major laboratory functions. Superintendents perform primarily management tasks to the near total exclusion of technical functions.

TABLE 8

PERCENT TIME SPENT PERFORMING DUTIES BY DAFSC GROUPS

DUTIES	DAFSC 904X0 (N=1296)	DAFSC 90430 (N=108)	DAFSC 90450 (N=869)	DAFSC 90470 (N=275)	DAFSC 90942 (N=26)
<u>MANAGEMENT, SUPERVISION, AND ADMINISTRATION</u>					
A PLANNING AND ORGANIZING	6	1	4	13	23
B DIRECTING AND IMPLEMENTING	8	1	5	17	30
C EVALUATING AND INSPECTING	3	-	1	8	20
D TRAINING	3	-	3	6	7
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	4	1	3	7	8
TOTAL	24	3	16	51	88
<u>TECHNICAL MEDICAL DUTIES</u>					
F PERFORMING MEDICAL LABORATORY MATERIEL FUNCTIONS	2	-	2	6	6
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	9	8	10	7	2
H PERFORMING SEROLOGY PROCEDURES	2	4	3	2	-
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	10	13	10	6	1
J PERFORMING HEMATOLOGICAL PROCEDURES	14	20	16	7	1
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	13	18	15	7	1
L PERFORMING CHEMICAL PROCEDURES USING ENZYME TECHNIQUES, FLAME PHOTOMETRY, OR ATOMIC ABSORPTION	5	7	6	2	-
M PERFORMING CHEMICAL PROCEDURES USING CLEARANCE OR TOLERANCE TECHNIQUES	1	1	1	-	-
N PERFORMING URINALYSIS PROCEDURES	4	5	4	2	-
O PERFORMING BACTERIOLOGICAL PROCEDURES	8	11	9	4	-
P PERFORMING CLINICAL MYCOLOGY, MYCOBACTERIA, AND VIROLOGY PROCEDURES	1	1	1	1	-
Q PERFORMING PARASITOLOGICAL PROCEDURES	2	4	2	1	-
R MAINTAINING FACILITIES, EQUIPMENT, AND WORK AREAS	5	5	5	4	1
TOTAL	76	97	84	49	12

TABLE 9

## PERCENT MEMBERS PERFORMING CAREER LADDER JOBS BY DAFSC GROUPS

JOB GROUP	TOTAL SAMPLE (N=1296)	DAFSC 90430 (N=108)	DAFSC 90450 (N=869)	DAFSC 90470 (N=275)	DAFSC 90492 (N=26)
I. HEMATOLOGICAL AND CHEMICAL PROCEDURES PERSONNEL	39	52	46	15	-
II. HEMATOLOGICAL PROCEDURES PERSONNEL	8	10	9	4	-
III. BLOOD BANK PERSONNEL	6	8	6	5	-
IV. SUPERVISORY PERSONNEL	15	2	5	44	96
V. CHEMICAL PROCEDURES NCOs	1	-	-	4	-
VI. GENERAL MEDICAL LABORATORY SUPERVISORS	2	-	1	6	-
VII. MEDICAL LABORATORY INSTRUCTORS	1	-	1	3	-
VIII. BACTERIOLOGICAL PROCEDURES PERSONNEL	8	10	9	4	-
IX. CHEMICAL PROCEDURES PERSONNEL	8	14	9	3	-
X. GENERAL MEDICAL LABORATORY PERSONNEL	9	4	10	10	4
PERCENT ACCOUNTED FOR IN JOB CLUSTERS	97	100	96	98	100
OTHER JOBS	3	-	4	2	-

TABLE 10

REPRESENTATIVE TASKS PERFORMED BY DAFSC 90430 PERSONNEL

<u>TASK TITLE</u>	<u>PERCENT PERFORMING</u>
R1 CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	75
G4 INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS FOR SPECIAL STUDIES	71
G2 COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	69
G9 PREPARE REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	69
G3 HANDLE OR STORE DANGEROUS CHEMICALS	63
G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	62
J15 PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	58
N6 PERFORM CHEMICAL SCREENING TESTS, USING DIP STICKS OR TABLETS	54
O16 PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUES	52
I10 PERFORM ABO GROUPINGS AND RH TYPINGS, INCLUDING DU	52
J3 PERFORM BLOOD HEMOGLOBIN TESTS, AUTOMATED	51
J42 PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED	51
J19 PERFORM HEMATOCRIT DETERMINATIONS, AUTOMATED	51
N11 PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, PH, OR SPECIFIC GRAVITY	50
O18 PERFORM TAXO-A AND OPTOCHIN PROCEDURES	50
J31 PERFORM RED BLOOD CELL COUNTS, AUTOMATED	50
I32 PERFORM INDIRECT COOMBS PROCEDURES	50



TABLE 11

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 90450 PERSONNEL

TASK TITLE	PERCENT PERFORMING
R1 CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	82
G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	77
G4 INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS FOR SPECIAL STUDIES	74
G2 COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	72
G9 PREPARE REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	72
G3 HANDLE OR STORE DANGEROUS CHEMICALS	69
J46 PERFORM WHITE BLOOD CELL DIFFERENTIALS, MANUAL	61
J15 PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	61
J34 PERFORM RETICULOCYTE COUNTS	59
O16 PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUES	59
N11 PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, PH, OR SPECIFIC GRAVITY	58
J33 PERFORM RED BLOOD CELL MORPHOLOGY STUDIES	57
J10 PREPARE SPECIMENS FOR SHIPMENT	57
J20 PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	57
J42 PERFORM WHITE BLOOD CELL COUNTS, MANUAL	56
I10 PERFORM ABO GROUPINGS AND RH TYPINGS, INCLUDING DU	55
N13 PERFORM MICROSCOPIC EXAMINATIONS WITH OR WITHOUT STAINS TO IDENTIFY CELLULAR OR CRYSTALLINE STRUCTURES	54
R2 CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	54
J31 PERFORM RED BLOOD CELL COUNTS, AUTOMATED	53
L23 PERFORM POTASSIUM DETERMINATIONS	51
A1 ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	50

TABLE 12

TASKS WHICH MOST CLEARLY DISTINGUISH BETWEEN 90430 AND 90450 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 90430 (N=108)	DAFSC 90450 (N=869)	DIFFERENCE
A1 ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	12	50	-38
B2 ATTEND STAFF OR UNIT MEETINGS	2	40	-38
E7 MAINTAIN LOG OF LABORATORY PROCEDURES	7	44	-37
D14 DEMONSTRATE USE OF LABORATORY EQUIPMENT	12	47	-35
A8 DETERMINE OR ANALYZE REQUIREMENTS FOR SUPPLIES	6	41	-34
F5 MAINTAIN SUPPLY STOCK LEVELS	5	36	-31
E1 COMPILE OR MAINTAIN WORKLOAD DATA	4	33	-29
R11 PERFORM OPERATOR MAINTENANCE ON LABORATORY EQUIPMENT	15	43	-28
B38 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90430)	3	31	-28
D4 ASSIGN TRAINING TASKS TO TRAINEES	5	32	-27
I5 ISSUE BLOOD OR BLOOD COMPONENTS	18	45	-27
E13 PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	1	27	-26
B39 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90450)	1	26	-25
B30 ORIENT NEWLY ASSIGNED PERSONNEL	11	36	-25
B33 RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	4	28	-24
A13 ESTABLISH OR PLAN QUALITY CONTROL PROGRAMS	4	27	-23
C13 INSPECT LABORATORY EQUIPMENT	6	27	-21
E10 MAINTAIN MEDICAL LABORATORY REPORT FILES	6	27	-21
B2 ATTEND STAFF OR UNIT MEETINGS	3	24	-21
J9 PERFORM DIFFERENTIALS ON OTHER BODY FLUIDS SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	21	42	-21
K65 PERFORM PROTEIN TESTS ON SPINAL FLUID TOTAL QUANTITATIVE, MANUAL	20	41	-21
R8 PERFORM DESIGNATED EXTRA DUTIES, SUCH AS FIRE WARDEN, BUILDING CUSTODIAN, OR NONCOMMISSIONED OFFICER OF THE DAY	6	25	-19
I20 PERFORM CROSSMATCH CERTIFICATIONS	27	46	-19
G10 PREPARE SPECIMENS FOR SHIPMENT	38	57	-19
A32 PLAN WORK PRIORITIES	3	22	-19
J44 PERFORM WHITE BLOOD CELL COUNTS ON OTHER BODY FLUIDS SUCH AS JOINT FLUIDS OR PLEURAL FLUIDS	24	43	-19
B10 DIRECT MAINTENANCE OF EQUIPMENT	1	20	-19
E4 LOCATE OR INTERPRET INFORMATION ON MEDICAL LABORATORY TECHNICAL PROCEDURES	4	22	-18

AVERAGE NUMBER OF TASKS PERFORMED BY 90430 PERSONNEL: 67

AVERAGE NUMBER OF TASKS PERFORMED BY 90450 PERSONNEL: 87

TABLE 13

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 90470 PERSONNEL

TASK TITLE		PERCENT PERFORMING
B1	ASSIGN DUTIES TO SUBORDINATES	81
A1	ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	79
A8	DETERMINE OR ANALYZE REQUIREMENTS FOR SUPPLIES	77
B39	SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90450)	76
B7	COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	75
B20	EVALUATE DUTY PERFORMANCE AND INITIATE APRs	74
B2	ATTEND STAFF OR UNIT MEETINGS	72
C13	INSPECT LABORATORY EQUIPMENT	69
B30	ORIENT NEWLY ASSIGNED PERSONNEL	69
E13	PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	68
G3	HANDLE OR STORE DANGEROUS CHEMICALS	67
G2	COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	67
F5	MAINTAIN SUPPLY STOCK LEVELS	66
G12	PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	66
D14	DEMONSTRATE USE OF LABORATORY EQUIPMENT	66
R1	CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	65
G4	INSPECT PATIENTS ON PROPER COLLECTION OR SUBMISSION OR SPECIMENS FOR SPECIAL STUDIES	65
B33	RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	65
E7	MAINTAIN LOG OF LABORATORY PROCEDURES	64
A32	PLAN WORK PRIORITIES	63
A3	COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	63
A13	ESTABLISH OR PLAN QUALITY CONTROL PROGRAMS	62
E1	COMPILE OR MAINTAIN WORKLOAD DATA	61
G9	PREPARE REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	61
A7	DETERMINE OR ANALYZE REQUIREMENTS FOR EQUIPMENT	61
F1	INITIATE EQUIPMENT MAINTENANCE REQUESTS	60

TABLE 14

TASKS WHICH MOST CLEARLY DISTINGUISH BETWEEN 90450 AND 90470 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 90450 (N=869)	DAFSC 90470 (N=275)	DIFFERENCE
B20 EVALUATE DUTY PERFORMANCE AND INITIATE APRs	15	74	-59
B7 COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	17	75	-58
B39 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90450)	26	76	-50
A33 SCHEDULE LEAVES	8	56	-48
B2 ATTEND STAFF OR UNIT MEETINGS	24	72	-48
C15 INSPECT LABORATORY PERSONNEL	11	58	-47
E11 MAINTAIN TRAINING RECORDS, SUCH AS AF FORM 623	10	56	-46
A3 COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	20	63	-43
B17 DRAFT CORRESPONDENCE OR MESSAGES	10	53	-43
B34 SCHEDULE OR POST DUTY ROSTER	14	57	-43
F9 REVIEW AIR FORCE MEDICAL MATERIEL LETTERS (AFML)	9	52	-43
A25 PLAN OR ORGANIZE DUTY ROSTERS	17	60	-43
B26 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR OTHER PERSONNEL	16	59	-43
A24 PLAN OR ESTABLISH LABORATORY ADMINISTRATIVE METHODS AND PROCEDURES	10	53	-43
F6 PREPARE REQUISITIONS FOR EQUIPMENT	10	52	-42
C13 INSPECT LABORATORY EQUIPMENT	27	69	-42
B1 ASSIGN DUTIES TO SUBORDINATES	40	81	-41
F3 ISSUE OR TURN IN LABORATORY EQUIPMENT	12	53	-41
C14 INSPECT LABORATORY FACILITIES	11	52	-41
A32 PLAN WORK PRIORITIES	22	63	-41
C16 INTERPRET INSPECTION FINDINGS AND RECOMMEND CORRECTIVE ACTIONS	9	50	-41
C22 REVIEW LABORATORY PROCEDURES	16	56	-40
A7 DETERMINE OR ANALYZE REQUIREMENTS FOR EQUIPMENT	20	60	-40
F7 PREPARE REQUISITIONS FOR STANDARD OR NON-STANDARD MATERIEL ITEMS, MEDICAL OR NON-MEDICAL SUPPLIES	15	55	-40
E13 PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS	27	67	-40
C25 REVIEW WORKLOADS OR SCHEDULES	9	49	-40
F1 INITIATE EQUIPMENT MAINTENANCE REQUESTS	19	59	-40
C23 REVIEW OR INDORSE APRs, SPECIAL AWARDS, OR PERSONNEL ACTIONS	5	44	-39

AVERAGE NUMBER OF TASKS PERFORMED BY 90450 PERSONNEL: 87

AVERAGE NUMBER OF TASKS PERFORMED BY 90470 PERSONNEL: 113



TABLE 15

## REPRESENTATIVE TASKS PERFORMED BY DAFSC 90492 PERSONNEL

TASK TITLE	PERCENT PERFORMING
B20 EVALUATE DUTY PERFORMANCE AND INITIATE APRs	96
B7 COUNSEL PERSONNEL ON TRAINING OR OTHER PROBLEMS SUCH AS AIRMAN PERFORMANCE REPORTS (APR)	96
C15 INSPECT LABORATORY PERSONNEL	96
A1 ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS	96
C14 INSPECT LABORATORY FACILITIES	96
A7 DETERMINE OR ANALYZE REQUIREMENTS FOR EQUIPMENT	96
A3 COORDINATE MEDICAL LABORATORY ACTIVITIES WITH OTHER AGENCIES OR ORGANIZATIONS	96
C23 REVIEW OR INDORSE APRs, SPECIAL AWARDS, OR PERSONNEL ACTIONS	92
B1 ASSIGN DUTIES TO SUBORDINATES	92
A8 DETERMINE OR ANALYZE REQUIREMENTS FOR SUPPLIES	92
C25 REVIEW WORKLOADS OR SCHEDULES	92
B2 ATTEND STAFF OR UNIT MEETINGS	92
A2 COMPOSE LOCAL MEDICAL LABORATORY POLICIES OR REGULATIONS	92
A5 DETERMINE OR ANALYZE FACILITIES MAINTENANCE REQUIREMENTS	92
B17 DRAFT CORRESPONDENCE OR MESSAGES	92
B40 SUPERVISE MEDICAL LABORATORY TECHNICIANS (AFSC 90470)	88
B35 SERVE ON BOARDS OR COMMITTEES	88
B30 ORIENT NEWLY ASSIGNED PERSONNEL	88
B34 SCHEDULE OR POST DUTY ROSTERS	88
A33 RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	88
C10 EVALUATE PROCEDURES FOR STORAGE, INVENTORY, OR INSPECTION OF PROPERTY ITEMS	88
A25 PLAN OR ORGANIZE DUTY ROSTERS	88
B4 CONDUCT SAFETY MEETINGS	88
A24 PLAN OR ESTABLISH LABORATORY ADMINISTRATIVE METHODS AND PROCEDURES	85
B33 RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS	85
B26 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR OTHER PERSONNEL	85
C13 INSPECT LABORATORY EQUIPMENT	85

TABLE 16

TASKS WHICH MOST CLEARLY DISTINGUISH BETWEEN 90470 AND 90492 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	DAFSC 90470 (N=275)	DAFSC 90492 (N=26)	DIFFERENCE
N11 PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, PH, OR SPECIFIC GRAVITY	48	4	+44
J46 PERFORM WHITE BLOOD CELL DIFFERENTIALS, MANUAL	51	8	+43
J20 PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	44	4	+40
H11 PERFORM NONTREPONEMAL TESTS FOR SYPHILIS SUCH AS VDRL OR RPR	40	-	+40
G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS	66	27	+39
J34 PERFORM RETICULOCYTE COUNTS	43	4	+39
J15 PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	47	8	+39
N13 PERFORM MICROSCOPIC EXAMINATIONS WITH OR WITHOUT STAINS TO IDENTIFY CELLULAR OR CRYSTALLINE STRUCTURES	43	4	+39
R1 CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	65	27	+38
H10 PERFORM MONOTESTS	37	-	+37
R2 CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	49	12	+37
I10 PERFORM ABO GROUPINGS AND RH TYPINGS, INCLUDING DU	41	4	+37
O11 PERFORM PRIMARY CULTURES ON BIOLOGICAL SPECIMENS	40	4	+36
J35 PERFORM SEMEN ANALYSES	36	-	+36
B40 SUPERVISE MEDICAL LABORATORY TECHNICIANS (AFSC 90470)	33	88	-55
B41 SUPERVISE AFSCs OTHER THAN 904X0	13	65	-52
B18 DRAFT OR REVISE JOB DESCRIPTIONS	27	77	-50
C10 EVALUATE PROCEDURES FOR STORAGE, INVENTORY, OR INSPECTION OF PROPERTY ITEMS	40	88	-48
C23 REVIEW OR INDORSE APRs, SPECIAL AWARDS, OR PERSONNEL ACTIONS	44	92	-48
B35 SERVE ON BOARDS OR COMMITTEES	41	88	-47
B6 CONDUCT STAFF MEETINGS	19	65	-46
A6 DETERMINE OR ANALYZE FACILITY SPACE REQUIREMENTS	40	85	-45
C3 EVALUATE INDIVIDUALS FOR PROMOTION OR RECLASSIFICATION	40	85	-45
C17 INVESTIGATE LABORATORY ACCIDENTS OR INCIDENTS	40	85	-45
C19 PREPARE INSPECTION REPORTS	29	73	-44
C1 EVALUATE ALERT OR DISASTER PREPAREDNESS PROCEDURES	21	65	-44
B25 INITIATE PERSONNEL ACTIONS	37	81	-44
A21 PLAN MEDICAL LABORATORY INSPECTIONS SUCH AS INTERNAL OR OUTSIDE AGENCIES	29	73	-44

AVERAGE NUMBER OF TASKS PERFORMED BY 90470 PERSONNEL: 70

AVERAGE NUMBER OF TASKS PERFORMED BY 90492 PERSONNEL: 43

## ANALYSIS OF AFMS GROUPS

Utilization patterns for survey respondents in various AFMS groups were reviewed to determine differences in tasks performed. No major deviations from the expected pattern of supervision-related tasks and duties increasing with time in service were noted. As expected, individuals with less time in service spent more time on technically oriented duties. In general, the job differences between AFMS groups are similar to those noted for DAFSC groups. However, where the differences in tasks performed associated with skill groups tend to be larger and generally exclusive between skill levels, the job differences between enlistment groups are normally more moderate and reflect a greater degree of overlap between technical and supervisory tasks performed by personnel of AFMS groups having successively increased experience.

Through the fourth enlistment group, two technical duty areas tend to prevail. These are performing hematological procedures and performing chemical procedures using macrotechniques and microtechniques (See Table 17). First enlistment (1-48 month AFMS) airmen spent more time in these two duty areas (33 percent) than did other enlistment groups. First enlistment personnel are prevalent in six of the ten career ladder groups, with 50 percent or more being found in six clusters. This high percentage of first enlistment personnel appearing in the major clusters is not surprising since 51 percent of the survey respondents were first-term members. Table 18 lists representative tasks performed by first job respondents (6-24 months AFMS).

TABLE 17

## PERCENT TIME SPENT PERFORMING DUTIES BY AFMS GROUPS

DUTY	MONTHS AFMS					
	6-24 (N=282)	1-48 (N=655)	49-96 (N=221)	97-144 (N=143)	145-192 (N=86)	193-240 (N=120)
MANAGEMENT, SUPERVISION, AND ADMINISTRATION						
A PLANNING AND ORGANIZING	2	3	6	7	13	14
B DIRECTING AND IMPLEMENTING	2	3	8	10	17	18
C EVALUATING AND INSPECTING	1	1	3	4	7	9
D TRAINING	1	2	4	4	5	6
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	2	2	4	5	6	7
TOTAL	8	11	25	30	48	54
TECHNICAL DUTIES						
TECHNICAL DUTIES						
F PERFORMING MEDICAL LABORATORY MATERIEL FUNCTIONS	1	1	2	4	5	5
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	9	10	8	8	8	6
H PERFORMING SEROLOGY PROCEDURES	3	3	2	3	2	2
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	11	12	11	8	5	5
J PERFORMING HEMATOLOGICAL PROCEDURES	19	17	14	12	7	6
K PERFORMING CHEMICAL PROCEDURES USING MICROTECHNIQUES OR MICROTECHNIQUES	18	16	13	12	7	6
L PERFORMING CHEMICAL PROCEDURES USING ENZYME TECHNIQUES, FLAME PHOTOMETRY, OR ATOMIC ABSORPTION	7	6	5	4	2	2
M PERFORMING CHEMICAL PROCEDURES USING CLEARANCE OR TOLERANCE TECHNIQUES	1	1	1	1	1	1
N PERFORMING URINALYSIS PROCEDURES	5	5	3	3	2	2
O PERFORMING BACTERIOLOGICAL PROCEDURES	10	9	8	7	6	4
P PERFORMING CLINICAL MYCOLOGY, MYCOBACTERIA, AND VIROLOGY PROCEDURES	1	1	1	1	1	1
Q PERFORMING PARASITOLOGICAL PROCEDURES	3	3	2	2	2	1
R MAINTAINING FACILITIES, EQUIPMENT, AND WORK AREAS	4	5	5	5	4	4
TOTAL	92	89	75	70	52	46
						25



TABLE 18

REPRESENTATIVE TASKS PERFORMED BY 904X0 PERSONNEL IN THEIR FIRST JOB ASSIGNMENT (6-24 MONTHS)

TASK	PERCENT MEMBERS PERFORMING
R1 CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	75
G4 INSTRUCT PATIENTS ON PROPER COLLECTION OR SUBMISSION OF SPECIMENS FOR SPECIAL STUDIES	71
G2 COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS	69
G9 PREPARE REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES	69
G3 HANDLE OR STORE DANGEROUS CHEMICALS	63
G12 PROCESS SPECIMENTS FOR LABORATORY EXAMINATIONS	62
J15 PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	58
N6 PERFORM CHEMICAL SCREENING TESTS, USING DIP STICKS OR TABLETS	54
O16 PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUES	52
I10 PERFORM ABO GROUPINGS AND PH TYPINGS, INCLUDING DU	52
J3 PERFORM BLOOD HEMOGLOBIN TESTS, AUTOMATED	51
J42 PERFORM WHILE BLOOD CELL COUNTS, AUTOMATED	51
N11 PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, PH, OR SPECIFIC GRAVITY	50
O18 PERFORM TAXO-A AND OPTOCHIN PROCEDURES	50
J31 PERFORM RED BLOOD CELL COUNTS, AUTOMATED	50
I32 PERFORM INDIRECT COOMBS PROCEDURES	50

## COMPARISON OF SURVEY DATA TO AFR 39-1 SPECIALTY DESCRIPTIONS

In conjunction with the analysis of DAFSC groups, a comparison was made between the DAFSC group job descriptions compiled from survey data and the specialty descriptions in AFR 39-1 for all AFSCs in the 904X0 career ladder. The comparison indicates that the AFR 39-1 Specialty Descriptions contain statements of responsibility which are sufficiently broad in scope to include all required tasks performed by significant percentages of 904X0 personnel.

The specialty descriptions adequately paralleled all of the major clusters and independent job types involved regardless of a rather high degree of specialization within some clusters and independent job types.

## COMPARISON OF THE SPECIALTY TRAINING STANDARD (STS) WITH SURVEY RESULTS

A review of the current 904X0 STS, dated July 1976, was made for the 3-, 5-, and 7-skill levels. Assistance was provided by subject matter specialists at the Technical Training School who matched inventory tasks with STS tasks. Each of the STS subparagraphs containing task knowledge or performance requirements were compared to the survey results. Subparagraphs containing only general information or subject knowledge proficiency level requirements were not evaluated.

Overall, the STS appears to be up to date and complete in providing general training requirements. Most STS subparagraphs were supported by survey data. However, several tasks listed in the inventory were not linked with specific subparagraphs, even though they did relate to the general subject area. Most of these tasks were specific tests or procedures conducted in the medical laboratory. These tasks should be examined by subject matter specialists to determine whether they are sufficiently important for inclusion in subparagraphs of the STS. Data reflecting the match between the STS and survey sample will be furnished the Technical Training School for this purpose.

## ANALYSIS OF TASK DIFFICULTY

From a listing of personnel identified for the 904X0 job survey, airmen primarily holding the 7-skill level from various locations and commands were selected to rate task difficulty. Tasks were rated on a nine-point scale from extremely low to extremely high difficulty. Difficulty is defined as the length of time it takes an average career ladder member to learn to do the task. Interrater reliability (as assessed through components of variance of standardized group means) among the 49 raters was .93. Ratings were adjusted so that tasks of average difficulty have ratings of 5.00.

A listing of the 15 most difficult tasks which were performed by 904X0 personnel appears in Table 19. Performing clinical mycology, mycobacteria, and virology procedures and performing certain blood banking and immunohematology procedures such as cytotoxic cross-matching tests are rated as above average in difficulty.

Table 20 presents tasks rated near average in difficulty. Six of these 15 tasks were in Duty K, performing chemical procedures using macrotechniques or microtechniques.

On the other hand, maintaining facilities, equipment, and work areas, and performing simpler hematological procedures such as erythrocyte sedimentation rate tests are rated well below average in difficulty (See Table 21).

### Job Difficulty Index (JDI)

In addition to reviewing the relative difficulty of tasks, it is useful to examine the relative difficulty of jobs. To obtain a relative Job Difficulty Index (JDI), the task difficulty ratings for tasks performed and the time spent on those tasks by specified job groups are entered into a statistically reliable formula which predicts overall job difficulty. The resultant JDIs provide a relative measure of how jobs vary in difficulty when compared to other jobs identified in the sample. The index ranks jobs on a scale of one (for very easy jobs) to 25 (for very difficult jobs). The indices are then adjusted so that the average JDI is 13.00. Individual JDIs were computed for the major job groups identified in the CAREER LADDER STRUCTURE section of this report. These indices are listed in Table 22.

Supervisory Personnel (Cluster IV) had the highest job difficulty of 18.7. This relatively high JDI resulted from the large number of total tasks performed (average 157). This high average number of tasks performed was the highest of any of the major job groups identified. Typically, supervisory tasks tend to be rated above average, and generally supervisory personnel tend to perform a high number of tasks. Cluster V, Chemical Procedures NCOICs, had the second



highest JDI (18.0) primarily because of the large number of tasks performed, both technical and supervisory. They averaged 136 tasks and some of the more difficult technical tasks were concentrated in the Chemical Procedures area utilizing macrotechniques and microtechniques. Typical tasks were performing blood urea nitrogen tests (BUN), automated, and perform creatinine tests, automated. The lowest JDI rating was given to Cluster X, General Medical Laboratory Personnel. This group averaged the lowest number of tasks (24), and most of the general medical laboratory tasks were rated less than average in difficulty. Another factor in the low JDI was that members of this cluster also spend 13 percent of their time maintaining facilities, equipment, and work areas.

TABLE 19

MOST DIFFICULT TASKS PERFORMED BY 904X0 PERSONNEL

<u>TASK</u>	<u>TASK INDEX</u>
P1 PERFORM ELECTRON MICROSCOPY PROCEDURES	8.01
I30 PERFORM HLA CYTOTOXIC CROSSMATCH TESTS	7.95
P17 PERFORM VIRUS PURIFICATIONS	7.76
I26 PERFORM FREEZING, STORING, AND RECOVERY OF LYMPHOCYTES AT CRYOGENIC TEMPERATURES	7.55
P16 PERFORM VIRUS PROPAGATIONS	7.54
H6 PERFORM FLOURESCENT TREPONEMAL ANTIBODY ABSORPTION (FTA-ABS) TEST MICROSCOPY	7.51
P15 PERFORM VIRUS ISOLATIONS	7.43
P14 PERFORM VIRUS IDENTIFICATION	7.41
I31 PERFORM HUMAN OR CANINE MICRO-MIXED LYMPHOCYTE CULTURE TESTS	7.35
A9 DRAFT BUDGET ESTIMATES	7.15
K81 PERFORM TOTAL IRON OR IRON BINDING CAPACITY PROCEDURES, MANUAL	7.11
H14 PERFORM TESTS FOR TOXOPLASMOSIS	7.03
P11 PERFORM RICKETTSIA FLOURESCENT MICROSCOPY PROCEDURES	6.94
I15 PERFORM "B" AND "T" CELL CYTOTOXIC ANTIBODY SCREEN TESTS	6.92
A15 ESTABLISH RESEARCH PROCEDURES	6.91

TABLE 20

AVERAGE DIFFICULTY TASKS PERFORMED BY 904X0 PERSONNEL

<u>TASK</u>	<u>TASK INDEX</u>
K17 PERFORM CO <sub>2</sub> CONTENT TESTS TITRIMETRIC, MANUAL	5.03
K38 PERFORM FLOURIDE URINE TESTS	5.03
A28 PLAN SAFETY PROGRAMS	5.02
B12 DIRECT MEDICAL ETHICS TRAINING	5.01
L21 PERFORM MAGNESIUM DETERMINATIONS	5.01
J34 PERFORM RETICULOCYTE COUNTS	5.00
L5 PERFORM ALKALINE PHOSPHATASE TESTS, MANUAL	5.00
K54 PERFORM OSMOLALITY TESTS	4.99
K6 PERFORM BILIRUBIN TESTS, MANUAL, USING MICROTCHNIQUES	4.99
C9 EVALUATE PATIENT SENSITIVITY PROGRAMS	4.98
K82 PERFORM TOTAL LIPIDS DETERMINATIONS, AUTOMATED	4.97
B23 IMPLEMENT LABORATORY DISASTER PROGRAMS	4.96
A21 PLAN MEDICAL LABORATORY INSPECTIONS SUCH AS INTERNAL OR OUTSIDE AGENCIES	4.96
K33 PERFORM CREATININE TESTS, MANUAL, USING MICROTCHNIQUES	4.95
I41 PERFORM SUBGROUPING PROCEDURES	4.95

TABLE 21

LEAST DIFFICULT TASKS PERFORMED BY 904X0 PERSONNEL

<u>TASKS</u>	<u>TASK INDEX</u>
J13 PERFORM ERYTHROCYTE INDICES, AUTOMATED	3.04
N11 PERFORM MACROSCOPIC EXAMINATIONS, INCLUDING COLOR, APPEARANCE, PH, OR SPECIFIC GRAVITY	2.99
R2 CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES, SCRATCHES, AND CRACKS	2.98
B27 MAINTAIN CIVILIAN TIME CARDS	2.97
J15 PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS	2.94
R1 CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA	2.92
E2 DESTROY OUTDATED MEDICAL LABORATORY RECORDS OR REPORTS	2.88
B4 CONDUCT MEDICAL LABORATORY TOURS	2.76
J19 PERFORM HEMATOCRIT DETERMINATIONS, AUTOMATED	2.74
E14 PREPARE PRE-MARITAL EXAMINATION FORMS	2.66
N6 PERFORM CHEMICAL SCREENING TESTS, USING DIP STICKS OR TABLETS	2.62
R13 REMOVE AND DISPOSE OF TRASH, WASTE, OR WASTE MATERIALS	2.25
R5 MOP, WAX, OR POLISH FLOORS, OR VACUUM RUGS OR CARPETS	2.20
R7 PAINT FACILITIES	2.05
R6 MOW GRASS OR MAINTAIN WORK AREA GROUNDS	1.86



TABLE 22

JOB DIFFICULTY INDEX (JDI) FOR MAJOR JOB GROUPS IN THE  
904X0 CAREER LADDER

<u>TITLE</u>	<u>JDI</u>
SUPERVISORY PERSONNEL	18.7
CHEMICAL PROCEDURES NCOICs	18.0
HEMATOLOGICAL AND CHEMICAL PROCEDURES PERSONNEL	14.0
MEDICAL LABORATORY INSTRUCTORS	13.2
BLOOD BANK PERSONNEL	13.8
GENERAL MEDICAL LABORATORY SUPERVISORS	12.2
BACTERIOLOGICAL PROCEDURES PERSONNEL	10.1
HEMATOLOGICAL PROCEDURES PERSONNEL	10.0
CHEMICAL PROCEDURES PERSONNEL	9.4
GENERAL MEDICAL LABORATORY PERSONNEL	7.6

## ANALYSIS OF CONUS VERSUS OVERSEAS GROUPS

CONUS and overseas 5-skill level airmen were found to be performing the same job, with very minor variations in emphasis. An analysis of tasks performed by the 738 CONUS members and the 137 overseas respondents holding DAFSC 90450 reflected only minor differences in time spent on duties, percent members performing tasks and background variables.

Table 23 presents the minor differences spent on duties by the two groups of DAFSC 90450 personnel. Table 24 presents distinguishing tasks between the groups. An analysis of background variables revealed that overseas DAFSC 90450 personnel perform an average of 98 tasks versus an average of 85 tasks for DAFSC 90450 CONUS personnel. Overseas respondents hold an average grade of 4.0, while CONUS personnel are slightly lower with an average grade of 3.8. The overseas group also holds an edge in average time in the career field with 51 months versus 40 months for the CONUS group. A similar situation exists for total time in the service, with overseas DAFSC 90450 personnel averaging 64 months AFMS while the CONUS group averages 51 months.

The survey data indicates that CONUS and overseas DAFSC 90450 personnel are not essentially different in any significant respect.

TABLE 23

PERCENT TIME SPENT ON DUTIES WHICH MOST CLEARLY DISTINGUISH BETWEEN 90450 PERSONNEL  
STATIONED IN CONUS AND OVERSEAS

DUTY TITLE	CONUS (N=738)	OVERSEAS (N=137)	DIFFERENCE
O PERFORMING BACTERIOLOGICAL PROCEDURES	8	11	-3
Q PERFORMING PARASITOLOGICAL PROCEDURES	2	4	-2
D TRAINING	3	1	+2
B DIRECTING AND IMPLEMENTING	6	4	+2
L PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	6	4	2
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	10	8	+2
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	15	14	+1

TABLE 24

TASKS WHICH MOST CLEARLY DISTINGUISH BETWEEN 90450 PERSONNEL  
STATIONED IN CONUS AND OVERSEAS

TASKS	CONUS (N=738)	OVERSEAS (N=137)	DIFFERENCE
K31 PERFORM CREATININE TESTS, AUTOMATED	38	10	+28
L10 PERFORM CREATININE PHOSPHOKINASE TESTS (CPK), AUTOMATED	40	14	+26
L4 PERFORM ALKALINE PHOSPHATASE TESTS, AUTOMATED	38	12	+26
L17 PERFORM LACTIC DEHYDROGENASE (LDH) TESTS, AUTOMATED	39	15	+24
K91 PERFORM UREA NITROGEN TESTS, AUTOMATED	35	11	+24
B38 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90430)	35	12	+23
L24 PERFORM SERUM GLUTAMIC OXALACETIC TRANSAMINASE (SGOT) TESTS, AUTOMATED	40	18	+22
K10 PERFORM CALCIUM ANALYSIS, AUTOMATED	36	16	+20
L25 PERFORM SGOT TESTS, MANUAL	8	34	-26
J35 PERFORM SEMEN ANALYSES	42	68	-26
J20 PERFORM HEMATOCRIT DETERMINATIONS, MANUAL	53	78	-25
H11 PERFORM NONTREPONEMAL TESTS FOR SYPHILIS SUCH AS VDRL OR RPR	40	65	-25
J32 PERFORM RED BLOOD CELL COUNTS, MANUAL	24	47	-23
Q5 PERFORM MACROSCOPIC EXAMINATIONS OF PARASITOLOGY SPECIMENS SUCH AS BLOOD SMEARS OR SCOTCH TAPE PREPARATIONS	36	59	-23
O11 PERFORM PRIMARY CULTURES ON BIOLOGICAL SPECIMENS	42	65	-23
H10 PERFORM MONOTESTS	45	68	-23



## COMPARISON OF CURRENT SURVEY TO 1973 SURVEY

The results of this survey were compared to those of Occupational Survey Report (OSR) AFPT 90-904-091, dated October 1973. Although the number of groups reported in these two studies varied somewhat (eight clusters in the 1973 study versus 10 in the 1978 study), the major job groups discussed in this report are very similar to those reported earlier (See Table 25). Job groups titles have changed somewhat, but are essentially the same.

It is apparent in reviewing the results from both surveys that the survey data has remained very stable over the intervening years. With this stability in the data and as long as no major changes to the career ladder are imposed as a result of acquiring large quantities of new equipment or restructuring with other related career ladders, a resurvey of this ladder should not be required for another five to seven years.

TABLE 25

## COMPARISON OF CAREER LADDER STRUCTURE FOR 1973 AND 1978 STUDIES

1978 STUDY (N=1296)	PERCENT	1973 STUDY (N=1030)	PERCENT
I. HEMATOLOGICAL AND CHEMICAL PROCEDURES PERSONNEL	39	HEMATOLOGICAL AND CHEMICAL PROCEDURES SPECIALISTS	41
II. HEMATOLOGICAL PROCEDURES PERSONNEL	8	HEMATOLOGICAL TECHNICIANS	10
III. BLOOD BANK PERSONNEL	6	BLOOD BANKING TECHNICIANS	3
IV. SUPERVISORY PERSONNEL	15	SUPERVISORY CLUSTER	16
V. CHEMICAL PROCEDURES NCOs	1	NOT MATCHED	-
VI. GENERAL MEDICAL LABORATORY SUPERVISORS	2	NOT MATCHED	-
VII. MEDICAL LABORATORY INSTRUCTORS	1	TRAINING	1
VIII. BACTERIOLOGICAL PROCEDURES PERSONNEL	8	BACTERIOLOGY TECHNICIANS	8
IX. CHEMICAL PROCEDURES PERSONNEL	8	CHEMICAL PROCEDURES SPECIALISTS	6
X. GENERAL MEDICAL LABORATORY PERSONNEL	9	GENERAL MEDICAL DUTY CLUSTER WORK AREA MAINTENANCE	4 4
NOT MATCHED	3	ISOLATES	7

## IMPLICATIONS

During the analysis process, no major problems associated with this career ladder were encountered. The career ladder has remained relatively stable over the intervening years since the 1973 survey. This stability should continue for the foreseeable future when major restructuring of the ladder is undertaken, or large infusions of new equipment or techniques are introduced. If it is to be assumed that no major changes are anticipated, a resurvey of this ladder should not be required for five to seven years.

## APPENDIX A



GROUP ID NUMBER AND TITLE: GRP079 HEMATOLOGICAL AND CHEMICAL PROCEDURES PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

J46 PERFORM WHITE BLOOD CELL DIFFERENTIALS, MANUAL  
J42 PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED  
K70 PERFORM PROTEIN TESTS, URINE, QUALITATIVE  
I21 PERFORM CROSSMATCHING TESTS  
K8 PERFORM BLOOD UREA NITROGEN TESTS (BUN), AUTOMATED

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
J PERFORMING HEMATOLOGICAL PROCEDURES	20
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	18
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	11

GROUP ID NUMBER AND TITLE: GRP122 HEMATOLOGICAL AND GENERAL MEDICAL LABORATORY  
SPECIALISTS

GROUP DIFFERENTIATING TASKS:

TASKS

J46 PERFORM WHITE BLOOD CELL DIFFERENTIALS, MANUAL  
O16 PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUES  
J33 PERFORM RED BLOOD CELL MORPHOLOGY STUDIES  
O11 PERFORM PRIMARY CULTURES ON BIOLOGICAL SPECIMENS  
G2 COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
J PERFORMING HEMATOLOGICAL PROCEDURES	27
O PERFORMING BACTERIOLOGICAL PROCEDURES	18
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	11

GROUP ID NUMBER AND TITLE: GRP228 BACTERIOLOGICAL AND HEMATOLOGICAL SPECIALISTS

GROUP DIFFERENTIATING TASKS:

TASKS

O18 PERFORM TAXO-A OPTOCHIN PROCEDURES  
J46 PERFORM WHITE BLOOD CELL DIFFERENTIALS, MANUAL  
O17 PERFORM SUB-CULTURE PROCEDURES  
J20 PERFORM HEMATOCRIT DETERMINATIONS, MANUAL  
K9 PERFORM BUN, MANUAL

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
O PERFORMING BACTERIOLOGICAL PROCEDURES	16
J PERFORMING HEMATOLOGICAL PROCEDURES	16
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	12

GROUP ID NUMBER AND TITLE: GRP220 CHEMICAL PROCEDURES AND HEMATOLOGICAL  
SPECIALISTS

GROUP DIFFERENTIATING TASKS:

TASKS

J42 PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED  
J15 PERFORM ERYTHROCYTE SEDIMENTATION RATE TESTS  
I21 PERFORM CROSSMATCHING TESTS  
K8 PERFORM BLOOD UREA NITROGEN TESTS (BUN), AUTOMATED  
K9 PERFORM BUN, MANUAL

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	20
J PERFORMING HEMATOLOGICAL PROCEDURES	18
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	13

GROUP ID NUMBER AND TITLE: GRP146 HEMATOLOGICAL AND BLOOD BANK SPECIALISTS

GROUP DIFFERENTIATING TASKS:

TASKS

J46 PERFORM WHITE BLOOD CELL DIFFERENTIALS, MANUAL  
J33 PERFORM RED BLOOD CELL MORPHOLOGY STUDIES  
I10 PERFORM ABO GROUPINGS AND RH TYPINGS, INCLUDING DU  
K9 PERFORM BUN, MANUAL  
K8 PERFORM BLOOD UREA NITROGEN TESTS (BUN), AUTOMATED

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

J PERFORMING HEMATOLOGICAL PROCEDURES  
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR  
MICROTECHNIQUES  
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES

28  
20  
17

GROUP ID NUMBER AND TITLE: GRP200 CHEMICAL PROCEDURES AND BLOOD BANK SPECIALISTS

GROUP DIFFERENTIATING TASKS:

TASKS

K23 PERFORM CHLORIDE TESTS ON BLOOD OR SPINAL FLUID (CSF) USING MACROTECHNIQUES,  
AUTOMATED  
K5 PERFORM BILIRUBIN TESTS, MANUAL, USING MACROTECHNIQUES  
G2 COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS  
L10 PERFORM CREATINE PHOSPHOKINASE TESTS (CPK), AUTOMATED  
I16 PERFORM BLOOD GROUP ANTIGEN TESTS  
K50 PERFORM INORGANIC PHOSPHOROUS TESTS, MANUAL, USING MACROTECHNIQUES

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBER

K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR  
MICROTECHNIQUES  
L PERFORMING CHEMICAL PROCEDURES USING ENZYME TECHNIQUES,  
FLAME PHOTOMETRY, OR ATOMIC ABSORPTION  
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES  
G PERFORMING GENERAL MEDICAL LABORATORY TASKS

38  
10  
8  
8

GROUP ID NUMBER AND TITLE: GRP113 CHEMICAL AND BACTERIOLOGICAL PROCEDURES  
TRAINEES

GROUP DIFFERENTIATING TASKS:

TASKS

- K41 PERFORM GLUCOSE AND REDUCING SUBSTANCES TESTS ON BLOOD, URINE, OR CSF, AUTOMATED, USING MACROTECHNIQUES
- O17 PERFORM SUB-CULTURE PROCEDURES
- K31 PERFORM CREATININE TESTS, AUTOMATED
- L28 PERFORM SODIUM DETERMINATIONS, AUTOMATED
- O18 PERFORM TAXO-A AND OPTOCHIN PROCEDURES

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	29
O PERFORMING BACTERIOLOGICAL PROCEDURES	18
L PERFORMING CHEMICAL PROCEDURES USING ENZYME TECHNIQUES, FLAME PHOTOMETRY, OR ATOMIC ABSORPTION	13



GROUP ID NUMBER AND TITLE: GRP083 HEMATOLOGICAL PROCEDURES PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

J42 PERFORM WHITE BLOOD CELL COUNTS, AUTOMATED  
J31 PERFORM RED BLOOD CELL COUNTS, AUTOMATED  
J19 PERFORM HEMATOCRIT DETERMINATIONS, AUTOMATED  
G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS  
B38 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90430)

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
J PERFORMING HEMATOLOGICAL PROCEDURES	52
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	8
B DIRECTING AND IMPLEMENTING	7

GROUP ID NUMBER AND TITLE: GRP049 BLOOD BANK PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

I10 PERFORM ABO GROUPINGS AND RH TYPINGS, INCLUDING DU  
I32 PERFORM INDIRECT COOMBS PROCEDURES  
I47 PREPARE OR STORE BLOOD COMPONENTS FOR TRANSFUSION  
G2 COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS  
J20 PERFORM HEMATOCRIT DETERMINATIONS, MANUAL

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	55
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	7
J PERFORMING HEMATOLOGICAL PROCEDURES	6

GROUP ID NUMBER AND TITLE: GRP161 SUPERVISORY PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

B1 ASSIGN DUTIES TO SUBORDINATES  
A8 DETERMINE OR ANALYZE REQUIREMENTS FOR SUPPLIES  
B39 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90450)  
A25 PLAN OR ORGANIZE DUTY ROSTERS  
C15 INSPECT LABORATORY PERSONNEL

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

B DIRECTING AND IMPLEMENTING	20
A PLANNING AND ORGANIZING	17
C EVALUATING AND INSPECTING	12
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	8
D TRAINING	6

GROUP ID NUMBER AND TITLE: GRP202 MEDICAL LABORATORY NCOICs

GROUP DIFFERENTIATING TASKS:

TASKS

B1 ASSIGN DUTIES TO SUBORDINATES  
A13 ESTABLISH OR PLAN QUALITY CONTROL PROGRAMS  
J46 PERFORM WHITE BLOOD CELL DIFFERENTIALS, MANUAL  
I10 PERFORM ABO GROUPINGS AND RH TYPINGS, INCLUDING DU  
A24 PLAN OR ESTABLISH LABORATORY ADMINISTRATIVE METHODS AND PROCEDURES

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

B DIRECTING AND IMPLEMENTING	13
A PLANNING AND ORGANIZING	11
J PERFORMING HEMATOLOGICAL PROCEDURES	9
I PERFORMING BLOOD BANKING AND IMMUNOHEMATOLOGY PROCEDURES	9

GROUP ID NUMBER AND TITLE: GRP172 MEDICAL LABORATORY SUPERVISORS

GROUP DIFFERENTIATING TASKS:

TASKS

B1 ASSIGN DUTIES TO SUBORDINATES  
B25 INITIATE PERSONNEL ACTIONS  
A25 PLAN OR ORGANIZE DUTY ROSTERS  
C15 INSPECT LABORATORY PERSONNEL  
E1 COMPILE OR MAINTAIN WORKLOAD DATA

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

B DIRECTING AND IMPLEMENTING	24
A PLANNING AND ORGANIZING	21
C EVALUATING AND INSPECTING	15
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	9



GROUP ID NUMBER AND TITLE: GRP230 CHEMICAL PROCEDURES NCOICs

GROUP DIFFERENTIATING TASKS:

TASKS

B39 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90450)  
K31 PERFORM CREATININE TESTS, AUTOMATED  
K8 PERFORM BLOOD UREA NITROGEN TESTS (BUN), AUTOMATED  
A32 PLAN WORK PRIORITIES  
B20 EVALUATE DUTY PERFORMANCE AND INITIATE APRs

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	24
B DIRECTING AND IMPLEMENTING	16
A PLANNING AND ORGANIZING	11

GROUP ID NUMBER AND TITLE: GRP094 GENERAL MEDICAL LABORATORY SUPERVISORS

GROUP DIFFERENTIATING TASKS:

TASKS

G3 HANDLE OR STORE DANGEROUS CHEMICALS  
G9 PREPARE REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES  
E13 PREPARE MONTHLY, BIMONTHLY, QUARTERLY, OR ANNUAL REPORTS  
B1 ASSIGN DUTIES TO SUBORDINATES  
A8 DETERMINE OR ANALYZE REQUIREMENTS FOR SUPPLIES  
B33 RESOLVE MEDICAL LABORATORY TECHNICAL PROBLEMS

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
B DIRECTING AND IMPLEMENTING	21
A PLANNING AND ORGANIZING	17
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	12
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	10

GROUP ID NUMBER AND TITLE: GRP059 MEDICAL LABORATORY INSTRUCTORS

GROUP DIFFERENTIATING TASKS:

TASKS

- D7 CONDUCT FORMAL TECHNICAL COURSE TRAINING IN AIR FORCE SPECIALTY AFSC 904X0
- D16 DETERMINE INDIVIDUAL TRAINING NEEDS SUCH AS REMEDIAL OR QUALIFICATION RE-CYCLES
- D1 ADMINISTER ORAL OR WRITTEN TESTS
- B8 DIRECT CONTINUOUS ORGANIZED LABORATORY TRAINING PROGRAMS OR OTHER INSERVICE TRAINING
- A23 PLAN ON-THE-JOB (OJT) TRAINING PROGRAMS

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

D TRAINING	36
B DIRECTING AND IMPLEMENTING	20
A PLANNING AND ORGANIZING	10

GROUP ID NUMBER AND TITLE: GRP068 BACTERIOLOGICAL PROCEDURES PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

- O11 PERFORM PRIMARY CULTURES ON BIOLOGICAL SPECIMENS
- O16 PERFORM STAINING PROCEDURES, SUCH AS GRAM'S STAIN, OR METHYLENE BLUES
- O20 PREPARE AND STORE CULTURE MEDIA
- G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS
- Q5 PERFORM MACROSCOPIC EXAMINATIONS OF PARASITOLOGY SPECIMENS SUCH AS COLOR, APPEARANCE, OR CONSISTENCY

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
O PERFORMING BACTERIOLOGICAL PROCEDURES	42
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	9
Q PERFORMING PARASITOLOGICAL PROCEDURES	9

GROUP ID NUMBER AND TITLE: GRP041 CHEMICAL PROCEDURES PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

- K8 PERFORM BLOOD UREA NITROGEN TESTS (BUN), AUTOMATED
- K31 PERFORM CREATININE TESTS, AUTOMATED
- K41 PERFORM GLUCOSE AND REDUCING SUBSTANCES TESTS ON BLOOD, URINE, OR CSF,  
AUTOMATED, USING MACROTECHNIQUES
- L4 PERFORM ALKALINE PHOSPHATASE TESTS, AUTOMATED
- G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	46
L PERFORMING CHEMICAL PROCEDURES USING ENZYME TECHNIQUES, FLAME PHOTOMETRY, OR ATOMIC ABSORPTION	20
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	8



GROUP ID NUMBER AND TITLE: GRP013 GENERAL MEDICAL LABORATORY PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS  
G3 HANDLE OR STORE DANGEROUS CHEMICALS  
R2 CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES,  
SCRATCHES, AND CRACKS  
B1 ASSIGN DUTIES TO SUBORDINATES  
A1 ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	24
R MAINTAINING FACILITIES, EQUIPMENT, AND WORK AREAS	13
B DIRECTING AND IMPLEMENTING	11
A PLANNING AND ORGANIZING	10

GROUP ID NUMBER AND TITLE: GRP283 GENERAL MEDICAL LABORATORY NCOICs

GROUP DIFFERENTIATING TASKS:

TASKS

B39 SUPERVISE MEDICAL LABORATORY SPECIALISTS (AFSC 90450)  
G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS  
A1 ADVISE SUPERIORS ON STATUS OF MEDICAL LABORATORY OPERATIONS  
E4 LOCATE OR INTERPRET INFORMATION ON MEDICAL LABORATORY TECHNICAL PROCEDURES  
B30 ORIENT NEWLY ASSIGNED PERSONNEL

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
B DIRECTING AND IMPLEMENTING	33
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	21
A PLANNING AND ORGANIZING	19
E PERFORMING MEDICAL LABORATORY ADMINISTRATION FUNCTIONS	18

GROUP ID NUMBER AND TITLE: GRP135 URINALYSIS AND GENERAL LABORATORY PROCEDURES  
SPECIALISTS

GROUP DIFFERENTIATING TASKS:

TASKS

N13 PERFORM MICROSCOPIC EXAMINATIONS WITH OR WITHOUT STAINS TO IDENTIFY  
CELLULAR OR CRYSTALLINE STRUCTURES  
G2 COLLECT BIOLOGICAL SPECIMENS DIRECTLY FROM PATIENTS OR SUBJECTS  
K71 PERFORM PROTEIN TESTS, URINE, SEMI-QUANTITATIVE  
R11 PERFORM OPERATOR MAINTENANCE ON LABORATORY EQUIPMENT  
N17 PERFORM QUALITATIVE TESTS FOR PROTEIN OTHER THAN DIP STICKS OR TABLETS

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
N PERFORMING URINALYSIS PROCEDURES	21
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	21
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	16
R MAINTAINING FACILITIES, EQUIPMENT, AND WORK AREAS	12

GROUP ID NUMBER AND TITLE: GRP204 SEROLOGY AND GENERAL MEDICAL LABORATORY  
TECHNICIANS

GROUP DIFFERENTIATING TASKS:

TASKS

H11 PERFORM NONTREPOHEMAL TESTS FOR SYPHILIS SUCH AS VDRL OR RPR  
H8 PERFORM LATEX FIXATIONS FOR RHEUMATOID ARTHRITIS  
G12 PROCESS SPECIMENS FOR LABORATORY EXAMINATIONS  
G10 PREPARE SPECIMENS FOR SHIPMENT  
D14 DEMONSTRATE USE OF LABORATORY EQUIPMENT

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
H PERFORMING SEROLOGY PROCEDURES	35
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	21
D TRAINING	10

GROUP ID NUMBER AND TITLE: GRP014 MEDICAL MATERIEL SPECIALISTS

GROUP DIFFERENTIATING TASKS:

TASKS

- F7 PREPARE REQUISITIONS FOR STANDARD OR NON-STANDARD MATERIEL ITEMS,  
MEDICAL OR NON-MEDICAL SUPPLIES
- A8 DETERMINE OR ANALYZE REQUIREMENTS FOR SUPPLIES
- B24 IMPLEMENT QUALITY CONTROL PROGRAMS
- G11 PERFORM NONTREPONEMAL TESTS FOR SYPHILIS SUCH AS VDRL OR RPR
- F2 INVENTORY MEDICAL LABORATORY EQUIPMENT

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
A PLANNING AND ORGANIZING	19
F PERFORMING MEDICAL LABORATORY MATERIEL FUNCTIONS	19
B DIRECTING AND IMPLEMENTING	14
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	13

GROUP ID NUMBER AND TITLE: GRP 159 FACILITIES MAINTENANCE AND GENERAL  
MEDICAL LABORATORY PERSONNEL

GROUP DIFFERENTIATING TASKS:

TASKS

- R1 CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA
- R2 CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES,  
SCRATCHES, AND CRACKS
- G3 HANDLE OR STORE DANGEROUS CHEMICALS
- F5 MAINTAIN SUPPLY STOCK LEVELS

TIME SPENT ON DUTIES:

<u>DUTY</u>	<u>AVERAGE TIME SPENT BY ALL MEMBERS</u>
R MAINTAINING FACILITIES, EQUIPMENT, AND WORK AREAS	43
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	35
F PERFORMING MEDICAL LABORATORY MATERIEL FUNCTIONS	10

GROUP ID NUMBER AND TITLE: GRP171 FACILITIES MAINTENANCE AND GENERAL  
MEDICAL LABORATORY NCOICs

GROUP DIFFERENTIATING TASKS:

TASKS

- R1 CLEAN LABORATORY FACILITIES OR IMMEDIATE WORK AREA
- R2 CLEAN OR INSPECT LABORATORY GLASSWARE FOR SPOTS, CHEMICAL RESIDUES,  
SCRATCHES, AND CRACKS
- G6 PERFORM CARE OR HANDLING OF LABORATORY ANIMALS
- G9 PREPARE REAGENTS, STANDARDS, OR QUALITY CONTROL SAMPLES
- K84 PERFORM TOXIC METALS TESTS, INCLUDING ARSENIC, LEAD, MERCURY

TIME SPENT ON DUTIES:

DUTY

AVERAGE TIME SPENT  
BY ALL MEMBERS

R MAINTAINING FACILITIES, EQUIPMENT, AND WORK AREAS	38
G PERFORMING GENERAL MEDICAL LABORATORY TASKS	30
K PERFORMING CHEMICAL PROCEDURES USING MACROTECHNIQUES OR MICROTECHNIQUES	12